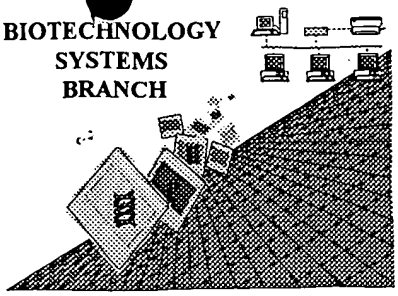
0280

BIOTECHNOLOGY SYSTEMS BRANCH



RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/825,423

Source: OIPE

Date Processed by STIC: 4/19/2001

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.
PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:
1) **INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,**
2) **TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY**

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.
PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)
PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO **REDUCE** ERRORED SEQUENCE LISTINGS, **PLEASE** USE THE **CHECKER VERSION 3.0 PROGRAM**, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW:

Checker Version 3.0

The Checker Version 3.0 application is a state-of the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 – 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST.25.
Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address:
http://www.uspto.gov/web/offices/pac/checker

Raw Sequence Listing Error Summary

ERROR DETECTED SUGGESTED CORRECTION SERIAL NUMBER: 09/825,423

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

1 _____	Wrapped Nucleics	The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3, as this will prevent "wrapping".
2 _____	Wrapped Aminos	The amino acid number/text at the end of each line "wrapped " down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3, as this will prevent "wrapping".
3 _____	Incorrect Line Length	The rules require that a line not exceed 72 characters in length. This includes spaces.
4 _____	Misaligned Amino Acid Numbering	The numbering under each 5th amino acid is misaligned. This may be caused by the use of tabs between the numbering. It is recommended to delete any tabs and use spacing between the numbers.
5 _____	Non-ASCII	This file was not saved in ASCII (DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text so that it can be processed.
6 _____	Variable Length	Sequence(s) ____ contain n's or Xaa's which represented more than one residue. As per the rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the (ix) feature section that some may be missing.
7 _____	PatentIn ver. 2.0 "bug"	A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequence(s) _____. Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies primarily to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
8 _____	Skipped Sequences (OLD RULES)	Sequence(s) ____ missing. If intentional, please use the following format for each skipped sequence: **(2) INFORMATION FOR SEQ ID NO:X:** **(i) SEQUENCE CHARACTERISTICS:**(Do not insert any headings under "SEQUENCE CHARACTERISTICS") **(xi) SEQUENCE DESCRIPTION:SEQ ID NO:X:** **This sequence is intentionally skipped** Please also adjust the "(iii) NUMBER OF SEQUENCES:" response to include the skipped sequence(s).
9 _____	Skipped Sequences (NEW RULES)	Sequence(s) ____ missing. If intentional, please use the following format for each skipped sequence. **<210> sequence id number** **<400> sequence id number** **000**
10 _____	Use of n's or Xaa's (NEW RULES)	Use of n's and/or Xaa's have been detected in the Sequence Listing. Use of <220> to <223> is MANDATORY if n's or Xaa's are present. In <220> to <223> section, please explain location of **n** or **Xaa**, and which residue **n** or **Xaa** represents.
11 _____	Use of "Artificial" (NEW RULES)	Use of "Artificial" only as "<213> Organism" response is incomplete, per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.
12 _____	Use of <220>Feature (NEW RULES)	Sequence(s) ____ are missing the <220>Feature and associated headings. Use of <220> to <223> is MANDATORY if <213>ORGANISM is "Artificial Sequence" or "Unknown" **Please explain source of genetic material in <220> to <223> section.** (See "Federal Register," 6/01/98, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of new Rules)
13 _____	PatentIn ver. 2.0 "bug"	**Please do not use "Copy to Disk" function of PatentIn version 2.0.** This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other means to copy file to floppy disk.

AMC - Biotechnology Systems Branch - 4/06/2001

OIPE

RAW SEQUENCE LISTING DATE: 04/19/2001
PATENT APPLICATION: US/09/825,423 TIME: 12:20:06

Input Set : A:\ID01152 US sequence listing.txt
Output Set: N:\CRF3\04192001\I825423.raw

Does Not Comply
Corrected Diskette Needed

PR 35

```
 3 <110> APPLICANT: Weber, Patricia C.
 4       Reichert, Paul
 5       Madison, Vincent S.
 6       Wyss, Daniel
 7       Yao, Nanhua
 8       Liu, Dingjiang
 9       Gesell, Jennifer
11 <120> TITLE OF INVENTION: Hepatitis C Virus NS3 Helicase Fragments
13 <130> FILE REFERENCE: ID01152 US
15 <140> CURRENT APPLICATION NUMBER: US/09/825,423
16 <141> CURRENT FILING DATE: 2001-04-03
18 <150> PRIOR APPLICATION NUMBER: US 60/194,419
19 <151> PRIOR FILING DATE: 2000-04-04
21 <160> NUMBER OF SEQ ID NOS: 16
23 <170> SOFTWARE: PatentIn Ver. 2.1
25 <210> SEQ ID NO: 1
26 <211> LENGTH: 631
27 <212> TYPE: PRT
28 <213> ORGANISM: Hepatitis C virus
30 <400> SEQUENCE: 1
31 Ala Pro Ile Thr Ala Tyr Ala Gln Gln Thr Arg Gly Leu Leu Gly Cys
32   1               5                  10                  15
34 Ile Ile Thr Ser Leu Thr Gly Arg Asp Lys Asn Gln Val Glu Gly Glu
35              20                  25                  30
37 Val Gln Ile Val Ser Thr Ala Thr Gln Thr Phe Leu Ala Thr Cys Ile
38          35                  40                  45
40 Asn Gly Val Cys Trp Thr Val Tyr His Gly Ala Gly Thr Arg Thr Ile
41      50                  55                  60
43 Ala Ser Pro Lys Gly Pro Val Ile Gln Met Tyr Thr Asn Val Asp Gln
44  65                  70                  75                  80
46 Asp Leu Val Gly Trp Pro Ala Pro Gln Gly Ser Arg Ser Leu Thr Pro
47                  85                  90                  95
49 Cys Thr Cys Gly Ser Ser Asp Leu Tyr Leu Val Thr Arg His Ala Asp
50              100                 105                 110
52 Val Ile Pro Val Arg Arg Arg Gly Asp Ser Arg Gly Ser Leu Leu Ser
53          115                 120                 125
55 Pro Arg Pro Ile Ser Tyr Leu Lys Gly Ser Ser Gly Gly Pro Leu Leu
56      130                 135                 140
58 Cys Pro Ala Gly His Ala Val Gly Leu Phe Arg Ala Ala Val Cys Thr
59 145                 150                 155                 160
61 Arg Gly Val Thr Lys Ala Val Asp Phe Ile Pro Val Glu Asn Leu Glu
62                  165                 170                 175
64 Thr Thr Met Arg Ser Pro Val Phe Thr Asp Asn Ser Ser Pro Pro Ala
65              180                 185                 190
67 Val Pro Gln Ser Phe Gln Val Ala His Leu His Ala Pro Thr Gly Ser
68          195                 200                 205
70 Gly Lys Ser Thr Lys Val Pro Ala Ala Tyr Ala Ala Gln Gly Tyr Lys
```

RAW SEQUENCE LISTING DATE: 04/19/2001
PATENT APPLICATION: US/09/825,423 TIME: 12:20:06

Input Set : A:\ID01152 US sequence listing.txt
Output Set: N:\CRF3\04192001\I825423.raw

```
71     210                 215                 220
73 Val Leu Val Leu Asn Pro Ser Val Ala Ala Thr Leu Gly Phe Gly Ala
74 225                 230                 235                 240
76 Tyr Met Ser Lys Ala His Gly Val Asp Pro Asn Ile Arg Thr Gly Val
77                 245                 250                 255
79 Arg Thr Ile Thr Thr Gly Ser Pro Ile Thr Tyr Ser Thr Tyr Gly Lys
80             260                 265                 270
82 Phe Leu Ala Asp Gly Gly Cys Ser Gly Gly Ala Tyr Asp Ile Ile Ile
83         275                 280                 285
85 Cys Asp Glu Cys His Ser Thr Asp Ala Thr Ser Ile Leu Gly Ile Gly
86     290                 295                 300
88 Thr Val Leu Asp Gln Ala Glu Thr Ala Gly Ala Arg Leu Val Val Leu
89 305                 310                 315                 320
91 Ala Thr Ala Thr Pro Pro Gly Ser Val Thr Val Pro His Pro Asn Ile
92                 325                 330                 335
94 Glu Glu Val Ala Leu Ser Thr Thr Gly Glu Ile Pro Phe Tyr Gly Lys
95             340                 345                 350
97 Ala Ile Pro Leu Glu Val Ile Lys Gly Gly Arg His Leu Ile Phe Cys
98         355                 360                 365
100 His Ser Lys Lys Lys Cys Asp Glu Leu Ala Ala Lys Leu Val Ala Leu
101     370                 375                 380
103 Gly Ile Asn Ala Val Ala Tyr Tyr Arg Gly Leu Asp Val Ser Val Ile
104 385                 390                 395                 400
106 Pro Thr Asn Gly Asp Val Val Val Val Ala Thr Asp Ala Leu Met Thr
107                 405                 410                 415
109 Gly Phe Thr Gly Asp Phe Asp Ser Val Ile Asp Cys Asn Thr Cys Val
110             420                 425                 430
112 Thr Gln Thr Val Asp Phe Ser Leu Asp Pro Thr Phe Thr Ile Glu Thr
113         435                 440                 445
115 Thr Thr Leu Pro Gln Asp Ala Val Ser Arg Thr Gln Arg Arg Gly Arg
116     450                 455                 460
118 Thr Gly Arg Gly Lys Pro Gly Ile Tyr Arg Phe Val Ala Pro Gly Glu
119 465                 470                 475                 480
121 Arg Pro Ser Gly Met Phe Asp Ser Ser Val Leu Cys Glu Cys Tyr Asp
122                 485                 490                 495
124 Ala Gly Cys Ala Trp Tyr Glu Leu Thr Pro Ala Glu Thr Thr Val Arg
125             500                 505                 510
127 Leu Arg Ala Tyr Met Asn Thr Pro Gly Leu Pro Val Cys Gln Asp His
128         515                 520                 525
130 Leu Glu Phe Trp Glu Gly Val Phe Thr Gly Leu Thr His Ile Asp Ala
131     530                 535                 540
133 His Phe Leu Ser Gln Thr Lys Gln Ser Gly Glu Asn Phe Pro Tyr Leu
134 545                 550                 555                 560
136 Val Ala Tyr Gln Ala Thr Val Cys Ala Arg Ala Gln Ala Pro Pro Pro
137                 565                 570                 575
139 Ser Trp Asp Gln Met Trp Lys Cys Leu Ile Arg Leu Lys Pro Thr Leu
140             580                 585                 590
142 His Gly Pro Thr Pro Leu Leu Tyr Arg Leu Gly Ala Val Gln Asn Glu
143         595                 600                 605
```

RAW SEQUENCE LISTING DATE: 04/19/2001
PATENT APPLICATION: US/09/825,423 TIME: 12:20:06

Input Set : A:\ID01152 US sequence listing.txt
Output Set: N:\CRF3\04192001\I825423.raw

```
145 Val Thr Leu Thr His Pro Ile Thr Lys Tyr Ile Met Thr Cys Met Ser
146     610                 615                 620
148 Ala Asp Leu Glu Val Val Thr
149 625                 630
153 <210> SEQ ID NO: 2
154 <211> LENGTH: 4
155 <212> TYPE: PRT
156 <213> ORGANISM: Artificial Sequence
158 <220> FEATURE:
159 <223> OTHER INFORMATION: Description of Artificial Sequence: Peptide
161 <400> SEQUENCE: 2
162 Ser Asp Gly Lys
163   1
167 <210> SEQ ID NO: 3
168 <211> LENGTH: 148
169 <212> TYPE: PRT
170 <213> ORGANISM: Hepatitis C virus
172 <400> SEQUENCE: 3
173 Gly Ser His Met Ser Pro Val Phe Thr Asp Asn Ser Ser Pro Pro Ala
174   1               5                  10                  15
176 Val Pro Gln Ser Phe Gln Val Ala His Leu His Ala Pro Thr Gly Ser
177              20                  25                  30
179 Gly Lys Ser Thr Lys Val Pro Ala Ala Tyr Ala Ala Gln Gly Tyr Lys
180          35                  40                  45
182 Val Leu Val Leu Asn Pro Ser Val Ala Ala Thr Leu Gly Phe Gly Ala
183      50                  55                  60
185 Tyr Met Ser Lys Ala His Gly Val Asp Pro Asn Ile Arg Thr Gly Val
186  65                  70                  75                  80
188 Arg Thr Ile Thr Thr Gly Ser Pro Ile Thr Tyr Ser Thr Tyr Gly Lys
189                  85                  90                  95
191 Phe Leu Ala Asp Gly Gly Cys Ser Gly Gly Ala Tyr Asp Ile Ile Ile
192             100                 105                 110
194 Cys Asp Glu Cys His Ser Thr Asp Ala Thr Ser Ile Leu Gly Ile Gly
195         115                 120                 125
197 Thr Val Leu Asp Gln Ala Glu Thr Ala Gly Ala Arg Leu Val Val Leu
198     130                 135                 140
200 Ala Thr Ala Thr
201 145
205 <210> SEQ ID NO: 4
206 <211> LENGTH: 142
207 <212> TYPE: PRT
208 <213> ORGANISM: Hepatitis C virus
210 <400> SEQUENCE: 4
211 Gly Ser His Met Gly Ser Val Thr Val Pro His Pro Asn Ile Glu Glu
212   1               5                  10                  15
214 Val Ala Leu Ser Thr Thr Gly Glu Ile Pro Phe Tyr Gly Lys Ala Ile
215              20                  25                  30
217 Pro Leu Glu Val Ile Lys Gly Gly Arg His Leu Ile Phe Cys His Ser
218          35                  40                  45
```

insufficient explanation - give source of genetic material (see circled portion of Item 12 on Error Summary Sheet)

RAW SEQUENCE LISTING DATE: 04/19/2001
PATENT APPLICATION: US/09/825,423 TIME: 12:20:06

Input Set : A:\ID01152 US sequence listing.txt
Output Set: N:\CRF3\04192001\I825423.raw

```
220 Lys Lys Lys Cys Asp Glu Leu Ala Ala Lys Leu Val Ala Leu Gly Ile
221      50                  55                  60
223 Asn Ala Val Ala Tyr Tyr Arg Gly Leu Asp Val Ser Val Ile Pro Thr
224  65                  70                  75                  80
226 Asn Gly Asp Val Val Val Val Ala Thr Asp Ala Leu Met Thr Gly Phe
227                  85                  90                  95
229 Thr Gly Asp Phe Asp Ser Val Ile Asp Cys Asn Thr Ser Asp Gly Lys
230             100                 105                 110
232 Pro Gln Asp Ala Val Ser Arg Thr Gln Arg Arg Gly Arg Thr Gly Arg
233         115                 120                 125
235 Gly Lys Pro Gly Ile Tyr Arg Phe Val Ala Pro Gly Glu Arg
236     130                 135                 140
240 <210> SEQ ID NO: 5
241 <211> LENGTH: 288
242 <212> TYPE: PRT
243 <213> ORGANISM: Hepatitis C virus
245 <400> SEQUENCE: 5
246 Gly Ser His Met Ser Pro Val Phe Thr Asp Asn Ser Ser Pro Pro Ala
247   1               5                  10                  15
249 Val Pro Gln Ser Phe Gln Val Ala His Leu His Ala Pro Thr Gly Ser
250              20                  25                  30
252 Gly Lys Ser Thr Lys Val Pro Ala Ala Tyr Ala Ala Gln Gly Tyr Lys
253          35                  40                  45
255 Val Leu Val Leu Asn Pro Ser Val Ala Ala Thr Leu Gly Phe Gly Ala
256      50                  55                  60
258 Tyr Met Ser Lys Ala His Gly Val Asp Pro Asn Ile Arg Thr Gly Val
259  65                  70                  75                  80
261 Arg Thr Ile Thr Thr Gly Ser Pro Ile Thr Tyr Ser Thr Tyr Gly Lys
262                  85                  90                  95
264 Phe Leu Ala Asp Gly Gly Cys Ser Gly Gly Ala Tyr Asp Ile Ile Ile
265             100                 105                 110
267 Cys Asp Glu Cys His Ser Thr Asp Ala Thr Ser Ile Leu Gly Ile Gly
268         115                 120                 125
270 Thr Val Leu Asp Gln Ala Glu Thr Ala Gly Ala Arg Leu Val Val Leu
271     130                 135                 140
273 Ala Thr Ala Thr Pro Pro Gly Ser Val Thr Val Pro His Pro Asn Ile
274 145                 150                 155                 160
276 Glu Glu Val Ala Leu Ser Thr Thr Gly Glu Ile Pro Phe Tyr Gly Lys
277                 165                 170                 175
279 Ala Ile Pro Leu Glu Val Ile Lys Gly Gly Arg His Leu Ile Phe Cys
280             180                 185                 190
282 His Ser Lys Lys Lys Cys Asp Glu Leu Ala Ala Lys Leu Val Ala Leu
283         195                 200                 205
285 Gly Ile Asn Ala Val Ala Tyr Tyr Arg Gly Leu Asp Val Ser Val Ile
286     210                 215                 220
288 Pro Thr Asn Gly Asp Val Val Val Val Ala Thr Asp Ala Leu Met Thr
289 225                 230                 235                 240
291 Gly Phe Thr Gly Asp Phe Asp Ser Val Ile Asp Cys Asn Thr Ser Asp
292                 245                 250                 255
```

RAW SEQUENCE LISTING DATE: 04/19/2001
PATENT APPLICATION: US/09/825,423 TIME: 12:20:06

Input Set : A:\ID01152 US sequence listing.txt
Output Set: N:\CRF3\04192001\I825423.raw

```
294 Gly Lys Pro Gln Asp Ala Val Ser Arg Thr Gln Arg Arg Gly Arg Thr
295             260                 265                 270
297 Gly Arg Gly Lys Pro Gly Ile Tyr Arg Phe Val Ala Pro Gly Glu Arg
298         275                 280                 285
305 <210> SEQ ID NO: 6
306 <211> LENGTH: 241
307 <212> TYPE: PRT
308 <213> ORGANISM: Hepatitis C virus
310 <400> SEQUENCE: 6
311 Gly Ser His Met Ser Pro Val Phe Thr Asp Asn Ser Ser Pro Pro Ala
312   1               5                  10                  15
314 Val Pro Gln Ser Phe Gln Val Ala His Leu His Ala Pro Thr Gly Ser
315              20                  25                  30
317 Gly Lys Ser Thr Lys Val Pro Ala Ala Tyr Ala Ala Gln Gly Tyr Lys
318          35                  40                  45
320 Val Leu Val Leu Asn Pro Ser Val Ala Ala Thr Leu Gly Phe Gly Ala
321      50                  55                  60
323 Tyr Met Ser Lys Ala His Gly Val Asp Pro Asn Ile Arg Thr Gly Val
324  65                  70                  75                  80
326 Arg Thr Ile Thr Thr Gly Ser Pro Ile Thr Tyr Ser Thr Tyr Gly Lys
327                  85                  90                  95
329 Phe Leu Ala Asp Gly Gly Cys Ser Gly Gly Ala Tyr Asp Ile Ile Ile
330             100                 105                 110
332 Cys Asp Glu Cys His Ser Thr Asp Ala Thr Ser Ile Leu Gly Ile Gly
333         115                 120                 125
335 Thr Val Leu Asp Gln Ala Glu Thr Ala Gly Ala Arg Leu Val Val Leu
336     130                 135                 140
338 Ala Thr Ala Thr Pro Pro Gly Ser Gly Met Phe Asp Ser Ser Val Leu
339 145                 150                 155                 160
341 Cys Glu Cys Tyr Asp Ala Gly Cys Ala Trp Tyr Glu Leu Thr Pro Ala
342                 165                 170                 175
344 Glu Thr Thr Val Arg Leu Arg Ala Tyr Met Asn Thr Pro Gly Leu Pro
345             180                 185                 190
347 Val Cys Gln Asp His Leu Glu Phe Trp Glu Gly Val Phe Thr Gly Leu
348         195                 200                 205
350 Thr His Ile Asp Ala His Phe Leu Ser Gln Thr Lys Gln Ser Gly Glu
351     210                 215                 220
353 Asn Phe Pro Tyr Leu Val Ala Tyr Gln Ala Thr Val Cys Ala Arg Ala
354 225                 230                 235                 240
356 Gln
361 <210> SEQ ID NO: 7
362 <211> LENGTH: 4
363 <212> TYPE: PRT
364 <213> ORGANISM: Artificial Sequence
366 <220> FEATURE:
367 <223> OTHER INFORMATION: Description of Artificial Sequence: Peptide
369 <400> SEQUENCE: 7
370 Gln Gly Gly Ala
371   1
```

Please correct this error in subsequent sequences, too

VERIFICATION SUMMARY DATE: 04/19/2001
PATENT APPLICATION: **US/09/825,423** TIME: 12:20:07

Input Set : **A:\ID01152 US sequence listing.txt**
Output Set: **N:\CRF3\04192001\I825423.raw**

L:15 M:270 C: Current Application Number differs, Replaced Application Number
L:16 M:271 C: Current Filing Date differs, Replaced Current Filing Date